

53883-336

3/26/2013

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Anne Turnbough
Control Solutions, Inc.
5903 Genoa-Red Bluff
Pasadena, TX 77507

MAR 26 2013

Subject: Notification; Per PR-Notice 98-10
Quinclorac 1.5L
EPA Reg. No. 53883-336
Date Submitted: March 19, 2013

Dear Ms. Turnbough:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated March 19, 2013 for the product referenced above. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions regarding this letter, please contact me at (703) 306-0415 or davis.kable@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Kable Bo Davis", written over a horizontal line.

Kable Bo Davis
Product Manager 25
Herbicide Branch
Registration Division (7505P)

3/14



C O N T R O L
S O L U T I O N S
i n c o r p o r a t e d

March 19, 2013

Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504P)
U.S. Environmental Protection Agency
Room S-4900, One Potomac Yard
2777 S. Crystal Drive
Arlington, VA 22202-4501

NOTIFICATION

MAR 26 2013

Re: Notification
EPA Reg. No. 53883-336 / Quinclorac 1.5L

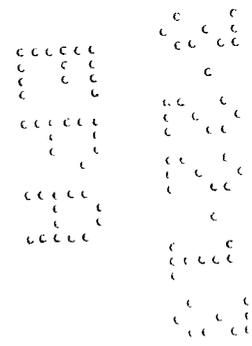
Dear Sir or Madam:

Control Solutions, Inc. is submitting a notification to add a generic descriptor to Quinclorac 1.5L (EPA Reg # 53883-336).

"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."

The following documents are enclosed in support of this application

- 8570-1
- Label - highlighted and un-highlighted



Please contact me directly should you need any additional information,

Sincerely,

Anne M Turnbough

Anne Turnbough
Director, Regulatory Affairs

MAR 26 2013

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QUINCLORAC 1.5 L

(Generic Descriptor: LIQUID HERBICIDE)

ACTIVE INGREDIENT:

Dimethylamine salt of quinclorac; 3,7-dichloro-8-quinolinecarboxylic acid 18.92%

OTHER INGREDIENTS: 81.08%

TOTAL: 100.00%

Equivalent to: 1.50 lbs. quinclorac; 3,7-dichloro-8-quinolinecarboxylic acid equivalent per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

EPA Reg. No. 53883-336

EPA Est. No. xxx

Control Solutions, Inc.
5903 Genoa-Red Bluff
Pasadena, TX 77507-1041

NET CONTENTS:

See inside for complete First Aid, Precautionary Statements, Directions for Use, Conditions of Sale and Warranty, and state-specific crop and/or use site restrictions.

FIRST AID	
IF SWALLOWED	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by a poison control center or doctor. DO NOT give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.
IF IN EYES	Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact SafetyCall® International for emergency medical treatment at (866) 897-8050.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if swallowed.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemically resistant to this product are listed below. For more options, refer to Category A on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as butyl rubber > 14 mils, natural rubber > 14 mils, neoprene rubber > 14 mils, or nitrile rubber > 14 mils
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENGINEERING CONTROLS STATEMENT

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

ENVIRONMENTAL HAZARDS

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Keep out of lakes, ponds, and streams. DO NOT apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. DO NOT contaminate water by cleaning of equipment or disposal of rinsate.

[Note to Label Editor: The text in [] only appears on the labels of products intended for repackaging. This statement will not appear on the label of end use product.] [DO NOT discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. DO NOT discharge effluent containing this product into sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.]

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with this labeling.

For use only by certified commercial applicators or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

All applicable directions, restrictions, and precautions are to be followed. This labeling must be in the possession of the user at time of application.

DO NOT apply this product by air or through any type of irrigation equipment. Control Solutions Inc. does not recommend or authorize the use of this product in manufacturing, processing or preparing custom blends with other products for application to turf.

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the specified area during application.

For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, and water is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material (such as nitrile, butyl, neoprene, and/or barrier laminate)
- Shoes plus socks

NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, nurseries, or greenhouses.

Professional applications to residential and nonresidential turf are not within the scope of the Worker Protection Standard.

DO NOT enter or allow others to enter the treated area until sprays have dried.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: DO NOT store box under dampness or high humidity.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

CONTAINER HANDLING: Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Triple rinse containers too large to shake (capacity > 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

PRODUCT INFORMATION

QUINCLORAC 1.5 L herbicide may be applied post-emergence to residential and nonresidential turf grasses (refer to **Table 1. Turf Tolerance (Established)** for the control of many broadleaf and grass weeds. Examples of such sites include, but are not limited to:

- Grounds or lawns around residential and commercial establishments
- Multifamily dwellings
- Military and other institutions
- Parks
- Airports
- Roadsides
- Schools
- Picnic grounds
- Athletic fields
- Houses of worship
- Cemeteries
- Golf courses
- Sod farms

Mode of Action

QUINCLORAC 1.5 L is an auxin agonist and is classified as a quinoline carboxylic acid. It is absorbed by foliage and roots and translocated throughout the plant. The control symptoms exhibited by broadleaf weeds include leaf and stem curl or twisting, and chlorosis. Susceptible grasses demonstrate stunting, chlorosis, and gradual reddening followed by necrosis and death. Refer to Tables 1, 2 and 3 for turfgrass tolerance and susceptible weed species.

Resistance Management

QUINCLORAC 1.5 L has a low probability of selecting for resistant weed biotypes. However, repeated applications of a single mode of action in a weed management plan increase the probability of selecting for naturally occurring biotypes with less susceptibility to herbicides using that mode of action. Therefore, weed management programs should include rotations using herbicides with different modes of action.

APPLICATION INFORMATION

Apply QUINCLORAC 1.5 L to actively growing weeds as post-emergence broadcast or spot sprays using the turf species, rate and growth stages indicated in Tables 1, 2 and 3.

DO NOT exceed the labeled application rate or fail to comply with use restrictions listed in Restrictions and Limitations.

For best results, weeds should not be under stress from lack of water, excessive water, low fertility, mowing shock, excessive hot or cold temperatures, or injury from other herbicide applications.

To achieve consistent weed control, use methylated seed oil. Refer to Tables 2 and 3 for rates.

Adding adjuvants may cause slight leaf burn, but new growth is normal, and turf vigor is not reduced. The potential for leaf burn is increased when relative humidity and temperature are high. Additional stress from low mowing heights may also increase the possibility of turf injury. Chelated iron or sprayable soluble nitrogen fertilizer will reduce a slight yellowing that may occur on some turf-grass species. Not all chelated iron or sprayable nitrogen fertilizers are compatible with QUINCLORAC 1.5 L. Always perform a compatibility test to ensure proper mixing. See **Compatibility Test For Mix Components** section of label for directions,

Spot Applications: Post-emergence spot applications may be made to susceptible weeds in turf grass that is tolerant to QUINCLORAC 1.5 L (see Tables 1 and 2). Apply 1.45 fluid ounces of QUINCLORAC 1.5 L per 1000 square feet (0.75 lb ae/A) of treated area. Spray coverage should be uniform and complete. See Table 5 for spot spray mix instructions.

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Mowing Information: DO NOT mow 2 days before or after applying QUINCLORAC 1.5 L to maximize weed control and minimize potential turf injury. Clippings from the first three mowings after application should be left on the treated area.

Irrigation and Rainfall: If soil moisture is not sufficient prior to QUINCLORAC 1.5 L application, irrigation may improve weed control. For best results, DO NOT water or irrigate for 24 hours after application. If rainfall does not occur in 2 to 7 days after application, irrigation of at least 1/2 inch is desirable.

Extended Grass Control: To extend grass control, QUINCLORAC 1.5 L can be tank mixed with Pendulum® herbicide or Pre-M® herbicide to provide residual control of annual grasses. Consult the respective tank mix labels for additional weeds controlled.

Seeding/Overseeding/Sprigging: The use of QUINCLORAC 1.5 L before or after seeding or over-seeding a turf area will not significantly interfere with the turf grass seed germination and growth of those grass types identified as tolerant or moderately tolerant in Table 1. Consult Table 4 for timing of applications concerning any seeding, overseeding or sprigging situation.

ADDITION OF ADJUVANTS

Additives in Spray Mix to Achieve Control: Methylated seed oil is the preferred adjuvant for post-emergence applications. However, if an MSO is not available in your region, the use of a crop oil concentrate or other high quality surfactant must be used in the spray tank at the time of application. (Refer to actual product label for use rates and directions.)

Additives should not be used when tank mixing with Emulsifiable Concentrate (EC) products as turf phyto-toxicity may occur.

The methylated seed oil or crop oil concentrate used as the adjuvant with QUINCLORAC 1.5 L herbicide must meet all the following criteria:

- Nonphytotoxic
- Contain only EPA-exempt ingredients
- Provide good mixing quality in the jar test
- Successful in local experience

The exact composition of suitable products will vary; however, any methylated seed oil or crop oil concentrate used should contain emulsifiers to provide good mixing quality.

When an adjuvant (or a specific adjuvant product, such as a drift control agent) is to be used with this product, the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant is recommended.

Consult your local Control Solutions Inc. representative or distributor for instructions for your area.

MIXING INSTRUCTIONS FOR QUINCLORAC 1.5 L

1. Water: Begin by agitating a thoroughly clean sprayer tank 3/4 full of clean water.
2. Agitation: Maintain constant agitation throughout mixing and application.
3. Inductor: If an inductor is used, rinse it thoroughly after each component has been added.
4. Products in PVA bags: Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
5. Water-dispersible products (dry flowables, wettable powders, suspension concentrates, or suspo-emulsions).
6. Water-soluble products (such as QUINCLORAC 1.5 L).
7. Emulsifiable concentrates (such as methylated seed oil or crop oil concentrate).
8. Water-soluble additives (such as chelated iron or soluble nitrogen fertilizer when applicable; not all chelated iron or sprayable nitrogen fertilizers are compatible with QUINCLORAC 1.5 L, Always perform a compatibility test to ensure proper mixing. See Compatibility Test For Mix Components section of label for directions.)

9. Remaining quantity of water.

Maintain constant agitation during application.

Backpack Sprayer:

Begin with a clean spray tank. Fill the spray tank 1/2 full with clean water and add the required amount of QUINCLORAC 1.5 L to the sprayer. Cap sprayer and agitate to ensure mixing. Uncap sprayer and add appropriate amount of methylated seed oil. Cap sprayer and agitate once again. Uncap sprayer and finish filling tank to desired level. During application, it is desirable to agitate the mixture on occasion to ensure mixing.

If the mixture is allowed to settle for any period of time, thorough agitation is essential before spraying is resumed.

SPRAYING INSTRUCTIONS FOR QUINCLORAC 1.5 L

Apply with properly calibrated ground equipment in sufficient water per acre to provide uniform spray distribution (at least 20 gallons of water per acre or at least 0.5 gallon per 1000 sq ft). Use low pressure sprayers at 20 to 40 psi. Maintain continuous agitation during spraying with good mechanical or bypass agitation. Nozzle screens must be no finer than 50 mesh (100 mesh is finer than 50 mesh). Check sprayer routinely to determine proper calibration. Flat fan, flood or cone nozzles may be used. Nozzles should be arranged to obtain uniform coverage for turf and weeds to be controlled. Boom height, nozzle selection, and pressure should be adjusted to provide uniform coverage and minimize spray drift.

Avoid overlaps that will increase rates above those labeled for use. Avoid application when winds may cause drift,

Procedure For Cleaning Spray Equipment: Clean application equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions before and after applying this product.

COMPATIBILITY TEST FOR MIX COMPONENTS

Add components in the following sequence using 2 teaspoons for each pound or 1 teaspoon for each pint of labeled rate per acre.

1. Water - For 20 gallons per acre spray volume, use 3.3 cups (800 ml) of water. For other spray volumes, adjust rates accordingly. Use only water from the intended source at the source temperature.
2. Products in PVA bags - Cut an opening in the water-soluble PVA bag just large enough to use a teaspoon for measuring purposes. Use the opened, water-soluble PVA bag first when preparing spray solution. Boron-containing fertilizers can be incompatible with PVA material. Include PVA material if a boron fertilizer is intended to be used. Cap the jar and invert 10 cycles.
3. Water-dispersible products (dry flowables, wettable powders, suspension concentrates, or suspo-emulsions) - Cap the jar and invert 10 cycles.
4. Water-soluble products (QUINCLORAC 1.5 L) - Cap the jar and invert 10 cycles.
5. Emulsifiable concentrates (methylated seed oil) - Cap the jar and invert 10 cycles.
6. Water-soluble additives - Cap the jar and invert 10 cycles.
7. Let the solution stand for 15 minutes.
8. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface (or thick (clabbered) texture. For WG or WP products, a fine precipitate that is easily resuspended is normal; large, nondispersible particles (>300 microns) that precipitate on standing are a sign of tank mix incompatibility. DO NOT use any spray solution that could clog spray nozzles.

RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 128 fluid ounces of QUINCLORAC 1.5 L herbicide per acre (or 2.9 fl ozs per 1000 sq ft) in one year (1.5 lbs ae per acre per year).
- DO NOT apply to golf course collars or greens.
- DO NOT make applications of QUINCLORAC 1.5 L to drought-stressed turfgrass and/or drought-stressed weeds.
- DO NOT apply to fine fescue unless it is part of a seed blend.
- DO NOT apply to Bahiagrass, carpetgrass, St. Augustinegrass, centipedegrass, dichondra, or lawns or turf where desirable clovers are present.

- DO NOT apply to exposed feeder roots of trees or ornamentals. Be particularly careful within the drip line of trees and other ornamental species.
- DO NOT apply into any ornamental bed.
- DO NOT apply within 4 weeks after seedling emergence of Kentucky bluegrass, creeping bentgrass, fine fescue blends and perennial ryegrass.
- DO NOT apply QUINCLORAC 1.5 L prior to and within 2 weeks after seeding seashore paspalum.
- DO NOT use clippings as mulch or compost around flowers, ornamentals, trees, or in vegetable gardens.
- DO NOT plant eggplants or tobacco within 12 months to areas treated with QUINCLORAC 1.5 L.
- DO NOT plant tomatoes or carrots within 24 months to areas treated with QUINCLORAC 1.5 L.
- Apply when wind speed is less than 10 mph as drift may cause damage or death of nontarget area vegetation. DO NOT apply when conditions favor drift from target area.
- Use a lawn-type sprayer with coarse spray as wind drift is less likely.
- Avoid mist and spray onto vegetables, flowers, ornamentals, shrubs, trees, and other desirable plants, especially plants belonging to the Solanaceae family, such as tomatoes, eggplants, and bell peppers.
- DO NOT discard rinsate on or near desirable plants.
- DO NOT apply through any type of irrigation system.
- DO NOT use to formulate or reformulate any other pesticide product that is not registered by EPA.

TURFGRASS TANK MIXES

Read and follow the applicable Restrictions and Limitations and Directions For Use on all products involved in tank mixing.

The most restrictive labeling applies to any tank mix. To increase spectrum of control of broadleaf weed species, a tank mix with 2,4-D, triclopyr, or other broadleaf herbicides may be used. For extended residual control, apply QUINCLORAC 1.5 L with Pendulum® herbicide or PRE-M® herbicide.

For sedge control, applications of QUINCLORAC 1.5 L with Basagran® T/O herbicide, Image® 70 DG herbicide, Lescogran® herbicide, or MSMA may be made. Combinations with MSMA will aid in control of certain grassy weeds, such as Bahiagrass or kikuyugrass. Consult labels for turf grass tolerance when tank mixing. Separate applications should be made if all target weeds are not at the correct growth stage for treatment at the same time.

Physical incompatibility, reduced weed control, or turf injury may result from mixing QUINCLORAC 1.5 L with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers.

Before tank mixing, a simple jar test is required to ensure compatibility of herbicides or other pesticides and/or additives. Refer to manufacturer's labels for specific use directions, precautions, and limitations before tank mixing with QUINCLORAC 1.5 L, and follow those that are most restrictive.

Table 1. Turf Tolerance (Established)

Highly Tolerant	Moderately Tolerant	Susceptible
Bermudagrass, common ¹	Bentgrass, creeping ¹	Bahiagrass
Bluegrass, annual	Bermudagrass, hybrid ¹	Bentgrass, colonial
Bluegrass, Kentucky	Bluegrass, rough	Bentgrass, seaside
Buffalograss	(Poa trivialis)	Centipedegrass
Fescue, tall	Fescue, Chewing's	Dichondra
Ryegrass, annual	Fescue, fine ²	St. Augustinegrass
Ryegrass, perennial	Fescue, hard	
Zoysiagrass	Fescue, red	
	Paspalum, seashore	

¹ Yellowing that occurs on these species can be reduced by the addition of chelated iron or sprayable soluble nitrogen fertilizer (see **APPLICATION INFORMATION** and **ADDITION OF ADJUVANTS** sections of this label).

² Apply QUINCLORAC 1.5 L herbicide to fine fescue only when it is part of a blend.

DO NOT use on golf course greens and collars.
 Consult Table 4. Seeding/Overseeding/Sprigging Timing Chart for this situation.

Turfgrass Species	Application Rate/Timing	Additive Rate
Bentgrass, creeping ^{1,2}	QUINCLORAC 1.5 L must be applied in 2 to 3 split applications at 0.5 to 1.0 fl oz per 1000 sq ft (0.25 to 0.51 lb ae/A) (not to exceed 128 fl ozs of product per acre [2.9 fl ozs of product per 1000 sq ft] per year or 1.5 lbs ae/A/year). Time sequential application(s) 14 to 21 days apart.	Use methylated seed oil at 0.55 fl oz per 1000 sq ft (1.5 pints per acre).
Bentgrass, creeping ^{1,3}	QUINCLORAC 1.5 L must be applied in 2 to 3 split applications at 0.65 to 1.0 fl oz per 1000 sq ft (0.33 to 0.51 lb ae/A) (not to exceed 128 fl ozs of product per acre [2.9 fl ozs of product per 1000 sq ft] per year or 1.5 lbs ae/A/year). Time sequential application(s) 14 to 21 days apart.	Use methylated seed oil at 0.55 fl oz per 1000 sq ft (1.5 pints per acre).

¹ Yellowing that occurs on these species can be reduced by the addition of chelated iron or sprayable soluble nitrogen fertilizer (see **APPLICATION INFORMATION** and **ADDITION OF ADJUVANTS**).

² Not for use at this rate range in California.

³ This rate range for use only in California.

DO NOT use on golf course greens and collars.
 Consult Table 4. Seeding/Overseeding/Sprigging Timing Chart for this situation.

Weed Species		QUINCLORAC 1.5 L herbicide Rate	Additive Rate
Grasses Controlled		Broadcast Applications 64 fl ozs of product per acre or 1.45 fl ozs per 1000 sq ft (0.75 lb ae/A)	Apply 1.5 pints per acre (0.55 fl oz per 1000 sq ft) methylated seed oil
Common Name	Scientific Name		
Barnyardgrass	<i>Echinochloa crusgalli</i>	Spot Applications Apply 1.45 fl ozs of QUINCLORAC 1.5 L per 1000 sq ft (0.75 lb ae/A) of treated area. Refer to footnotes in Tables 2 and 3 for specific turf-grass or weed instructions.	
Crabgrass, large ^{1,4}	<i>Digitaria sanguinalis</i>		
Crabgrass, smooth ^{1,4}	<i>Digitaria ischaemum</i>		
Foxtail, giant ¹	<i>Safari faberi</i>		
Foxtail, green ¹	<i>Setari viridis</i>		
Foxtail, yellow ¹	<i>Setari glauca</i>		
Kikuyugrass ^{2,3}	<i>Pennisetum dandestinum</i>		
Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>		
Torpedograss ³	<i>Panicum repens</i>		
Broadleaf Weeds Controlled			
Common Name	Scientific Name		
Bindweed, field	<i>Convolvulus arvensis</i>		
Clover, hop	<i>Trifolium aureum</i> <i>Pollich</i>		
Clover, red	<i>Trifolium pratense</i>		

Table 3. Application Rates and Timing for Post-emergence Weed Control in Turf

Weed Species		QUINCLORAC 1.5 L herbicide Rate	Additive Rate
Clover, white	<i>Trifolium repens</i>		
Daisy, English ^{2,5}	<i>Bellis perenne</i>		
Dandelion, common ²	<i>Taraxacum officinale</i>		
Dollarweed	<i>Hydrocotyle Umbellate</i>		
Geranium, Carolina	<i>Geranium carolinium</i>		
Medic, black	<i>Medicago lupulina</i>		
Morningglory spp.	<i>Ipomea</i> sp.		
Speedwell, common	<i>Veronica officinalis</i>		
Speedwell, slender	<i>Veronica filiformis</i>		
Speedwell, thymeleaf	<i>Veronica serpyllifolia</i>		
Violet, wild	<i>Viola</i> sp.		

¹ Under certain conditions, application of QUINCLORAC 1.5 L made to annual grasses at 2 to 4 tiller may not provide complete control. A sequential application will be required for grass control in these situations. Optimum control is achieved when applications of QUINCLORAC 1.5 L + methylated seed oil are applied either before second tiller or as weed grasses mature.

² Tank mix partner or sequential application required.

³ Make 2 sequential applications of 1.0 fl oz (0.51 lb ae/A) of QUINCLORAC 1.5 L per 1000 sq ft and an additional sequential application up to 0.90 fl oz (0.46 lb ae/A) of QUINCLORAC 1.5 L per 1000 sq ft at 14- to 21-day intervals.

⁴ Biotypes of large and smooth crabgrass in California have shown varied response to QUINCLORAC 1.5 L. If control failure occurs following a full or split application, DO NOT reapply QUINCLORAC 1.5 L. Change to a herbicide with a different mode of action.

⁵ NOT FOR USE to control this weed in California.

Table 4. Seeding/Overseeding/Sprigging Timing Chart¹

Variety	Before seeding ²	At seeding	7 days after emergence	14 days after emergence	28 days after emergence
Annual bluegrass	OK	OK	OK	OK	OK
Annual rygrass	OK	OK	OK	OK	OK
Buffalograss	OK	OK	OK	OK	OK
Common Bermudagrass ³ (for sprigging see footnote 3)	OK	OK	OK	OK	OK
Creeping bentgrass	OK	NO	NO	NO	OK
Fine fescues (in blend)	OK	NO	NO	NO	OK
Hybrid Bermudagrass ³ (for sprigging see footnote 3)	OK	OK	OK	OK	OK
Kentucky bluegrass	OK	NO	NO	NO	OK
Perennial ryegrass	OK	OK	NO	NO	OK
Seashore paspalum ^{3,4} (for sprigging see footnote 3)	NO	NO	NO	OK	OK

Variety	Before seeding ²	At seeding	7 days after emergence	14 days after emergence	28 days after emergence
Tall fescue	OK	OK	OK	OK	OK
Zoysiagrass ³ (for sprigging see footnote 3)	OK	OK	OK	OK	OK

¹ NOTE: No adjuvant or additive should be used when QUINCLORAC 1.5 L herbicide applications are made on newly emerged turf seedlings until 28 days after emergence; with the exception of seashore paspalum, a QUINCLORAC 1.5 L application rate of 1.45 fl ozs/1000 sq ft (0.75 lb ae/A) can be made to all other turf grass species in Table 4 above.

² QUINCLORAC 1.5 L can be applied 7 days or greater prior to seeding.

³ QUINCLORAC 1.5 L can be used anytime prior to, at or after sprigging as indicated by Turf grass species in Table 4 above.

⁴ 0.75 fl oz to 1.45 fl ozs/1000 sq ft (0.37 to 0.75 lb ae/A) application can be made at times indicated in Table 4 above.

Application of QUINCLORAC 1.5 L should be timed around the seeding operations using the above chart as a reference point.

Spray Mil Volume (gallons)	QUINCLORAC 1.5 L Product in Mix (tablespoons)	MSO Adjuvant in Mix (tablespoons)
1	3	1.5
2	6	3.0
3	9	4.5

Apply at the rate of 1 gallon per 1000 sq ft.
1 tablespoon = 0.5 fl oz (0.25 lb ae/A) of QUINCLORAC 1.5 L product.

NOTES: For consistent results, make QUINCLORAC 1.5 L application to newly germinated, to 1-tiller crabgrass, and when crabgrass has matured to 5 tillers or greater.*

* Under certain conditions, applications of QUINCLORAC 1.5 L made to annual grasses 2 to 4 tiller may not provide complete control. A sequential application will be required for grass control in these situations.

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